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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/305,313	05/05/1999	TAKAHIRO MATSUURA	862.2821	1944

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EXAMINER

LAROSE, COLIN M

ART UNIT	PAPER NUMBER
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2623

DATE MAILED: 04/21/2003

13

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/305,313

Applicant(s)

MATSUURA, TAKAHIRO

Examiner

Colin M. LaRose

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 February 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Continued Prosecution Application

1. The request filed on 21 February 2003 for a Continued Prosecution Application (CPA) under 37 CFR 1.53(d) based on parent Application No. 09/305,313 is acceptable and a CPA has been established. An action on the CPA follows.

Arguments and Amendments

2. Applicants' arguments and/or amendments filed 27 January 2003, have been entered and made of record. Claims 18-20 have been amended. Claims 1-20 are pending.

Claim Rejections - 35 USC § 102

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

5. Claims 1-3, 6-11, and 14-17 are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent 6,351,558 by Kuwata.

Regarding claims 1 and 9, and 17, Kuwata discloses a computer program (element 21d, figure 2), comprising a computer readable medium having computer program code, as an image processing apparatus (figure 2), with an image processing means (element 21d3, figure 2) that functions as a detector, arranged to detect an image area excluding a frame image contained in an inputted image (column 16, line 64 through column 17, line 3), a generator, arranged to generate correction information of the detected image area (S144 and S146, figure 13: correction parameters are calculated at S144 and compiled into a correction table at S146), and a corrector,

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arranged to correct the image area based on the generated correction information (S148, figure 13: the table is used to correct the gamma of the image).

As stated above in Paragraph 3, Kuwata teaches the newly added limitation of the detector detecting the frame image, which has gradation, by detecting pixels that have a same hue and a difference between lightness and saturation having a predetermined value or less.

Regarding claims 2 and 10, Kuwata discloses the detector determining that a pixel of interest constructs the frame image when pixels adjacent to the pixel of interest satisfy a predetermined condition. In figure 17, if the sum of pixels of luminance values "0" and "255" is sufficiently large compared to the adjacent pixels comprising intermediate values, it is determined that the pixels of interest construct the frame image (column 17, lines 30-44).

Regarding claims 3 and 11, Kuwata discloses identifying the image area other than the frame image based on a detection result of the pixel constructing the frame image and supplying information representing the identified image area to the generator and corrector (figures 12-13). In figure 12, S132 identifies an image area excluding the frame and supplies information of the identified image to the generation means to determine the luminance distribution in S136. Then, in figure 13, the information is supplied to the correction means in S148, which performs gamma correction.

Regarding claim 6 and 14, Kuwata allows for re-execution of identification processing of an image area other than the frame after correction by corrector has ended for situations in which further correction is desired. The detector in Kuwata's disclosure is part of an application stored in a computer that is able to re-identify and reprocess image areas an arbitrary number of times. See figure 2.

Regarding claim 7 and 15, Kuwata discloses the generator generating, as correction information, highlight and shadow portions (column 9, lines 42-52) and white and black balances (figure 18) to be corrected or adjusted.

Regarding claim 8 and 16, Kuwata discloses the corrector correcting gradation of an image area based on highlight and shadow points (column 26, lines 43-67) and black and white balances (figures 22-23).

Claim Rejections - 35 USC § 103

6. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

7. Claims 4, 5, 12, and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kuwata, as applied to claims 3 and 11, in view of U.S. Patent 5,491,759 by Naoi et al. ("Naoi").

Regarding claims 4, 5, 12 and 13, Kuwata is silent to the detector scanning the image in the horizontal and vertical directions in units of columns and rows in order to detect a frame image.

Naoi discloses scanning an image in the horizontal and vertical directions in units of columns and rows in order to identify a frame image on the basis of a detection result of the pixel constructing the frame image (figure 56). As an image is scanned in both the vertical and horizontal directions from all sides, a determination is made as to whether each pixel constructs the frame image (figure 9).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Kuwata by Naoi since Naoi's method of detecting edges is the functional equivalent of Kuwata's method. Both methods effectively perform the task of detecting a frame image.

2. Claims 18-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 4,893,345 by Matsumoto and U.S. Patent 6,351,558 by Kuwata.

Regarding claims 18-20, Matsumoto's system captures images of film containing a plurality of image portions separated by a frame, or bordering area. The image portions are then detected exclusive of the frame so that they can be printed.

Specifically, Matsumoto discloses a method and corresponding apparatus to perform the step of:

detecting (column 4, lines 26-35) a plurality of photographic image portions (figures 3A and 3B: image portions 2A, 2B, 2C) excluding a frame image (figures 3A and 3B: image frame RA, RB, RC) contained in an image that includes the plurality of photographic image portions (an image of the film, which contains the image portions and the frame, is captured by an image sensor 11, figure 1),

wherein each photographic image portion is separated by the frame image (as can be seen in figures 3A and 3B, the frame provides separation between each image portion).

Matsumoto is silent to generating correction information for each detected image portion and then using the correction information to correct each portion.

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Kuwata discloses an image processing system that, like that of Matsumoto, detects a photographic image portion excluding a frame that borders the image portion (see figures 16-17). Kuwata also discloses performing a correction routine on the detected image portion to obtain an enhanced image. In particular, Kuwata discloses generating correction information corresponding to a detected image portion (S144 and S146, figure 13: correction parameters are calculated at S144 and compiled into a correction table at S146), and correcting the image portion based on the generated correction information (S148, figure 13: the table is used to correct the gamma of the image). As a result of the correction routine, a contrast-enhanced image portion is produced.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Matsumoto by Kuwata to correct the detected image portions based on correction information since Kuwata teaches that correcting a detected image portion as claimed improves the quality of the image portion (column 29, line 36 through column 30, line 6).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Colin M. LaRose whose telephone number is (703) 306-3489. The examiner can normally be reached Monday through Thursday from 8:00 to 5:30. The examiner can also be reached on alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amelia Au, can be reached on (703) 308-6604. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9314.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the TC 2600 Customer Service Office whose telephone number is (703) 306-0377.

CML

Group Art Unit 2623

16 April 2003


AMELIA M. XU
SUPERVISORY PATENT EXAMINER
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